Image Loader Program (ILP)

for

High Performance Controllers

Book E33 - version 1.03

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1. Introduction

Welcome to ILP! This manual provides an overview of the ILP features and gives directions to get you started with the product right away.

1.1 What is ILP?

ILP is a program to compile images into a graphic project file and to load this file into HPCs equipped with a graphic display. This manual describes ILP version 1.0.1.X.

2. Installation

2.1 Software requirements

Windows 95, Windows 98, Windows XP, Windows NT 4.0, Windows 2000

2.2 Hardware requirements

- IBM-compatible PC with minimum a pentium processor
- minimum 32 MB RAM
- Hard disk with at least 5 MB of free space

2.3 ILP Installation

If an older version of ILP has already been installed on your system, uninstall it using the Add/Remove program option of the control panel, before installing the new version of the software.

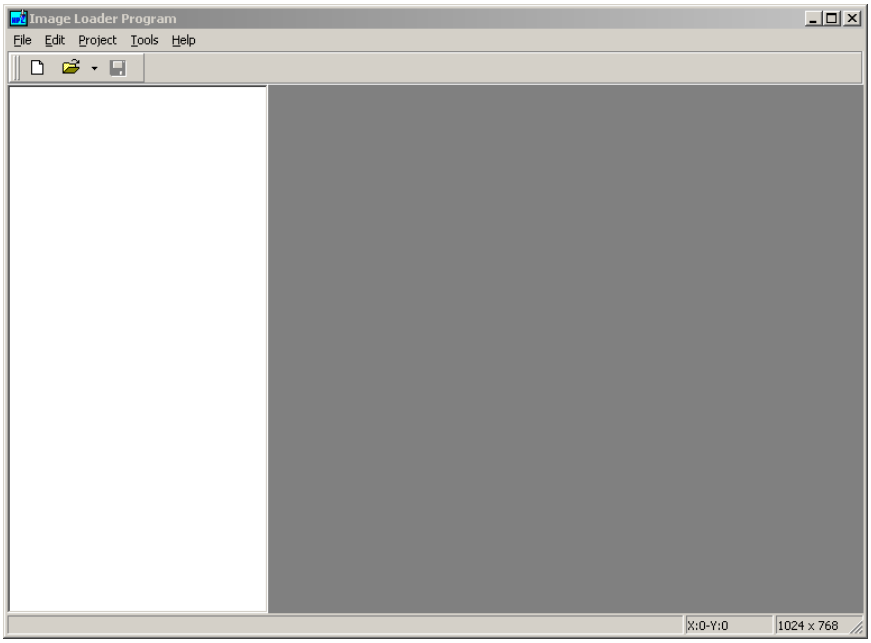
ILP is very easy to install:

1. Insert disk 1 into the appropriate drive.
2. Start the “setup.exe” file to start the installation routine.
3. The setup-routine will guide you through the different installation elements. Follow the instructions and read all the information displayed by the setup routine. Then, click the “Continue” button to proceed with installation.

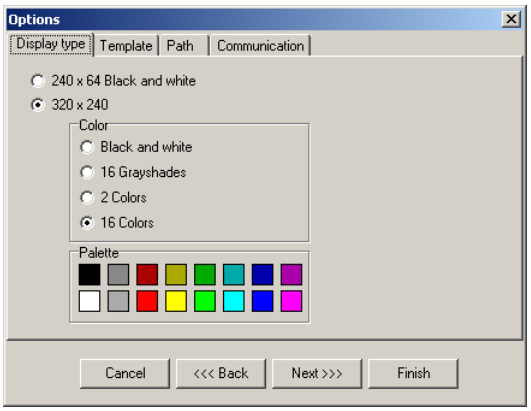
3. Overview

3.1 Starting with ILP

When the installation of ILP is completed, you can find a shortcut to start the program in the Start | Programs menu. Click on the shortcut and the program will start. You will see the following screen.



When you first start ILP, you must create a new project. Go to the File menu and select New or use the new-project tool button.



Select the correct display type and use the Finish-button to create the project. See the Menu overview chapter to find out more about the possible options and how to select a template, change the project path and to change the communication NIF….

3.2 Adding images

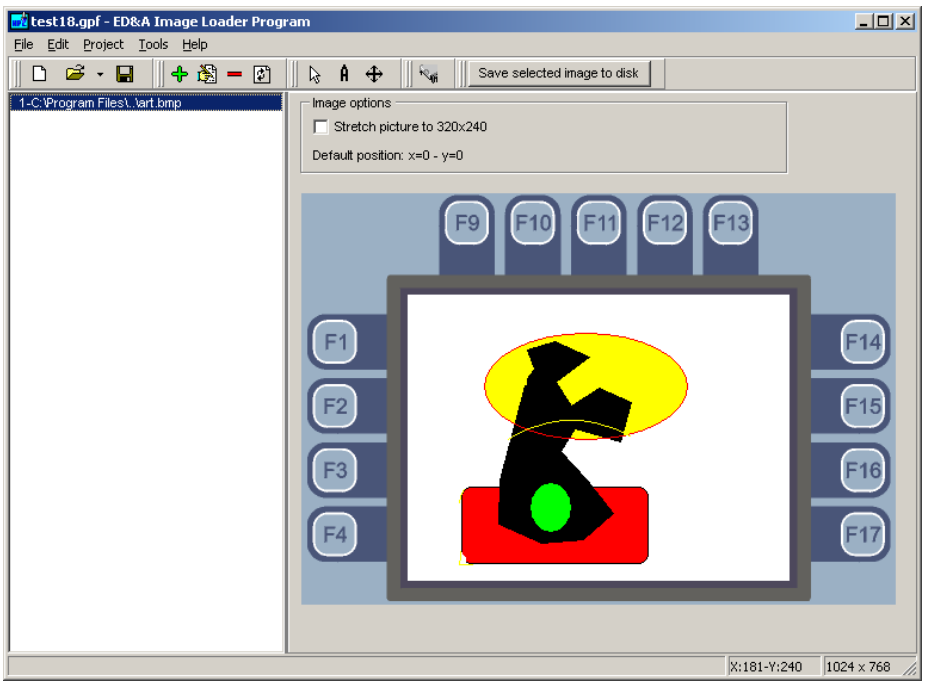
Use the -button to add images to the new project. A file-open dialog will appear, select the image you want to add and use the Open-button to accept. When a selected image is opened, it will be adapted to match the selected colour palette. Use the stretch check-box to stretch the selected image to the size of the display. See Options | Path for more information about the project directory.

Use the - button to replace an existing image with another. A file-open dialog will appear and you can select another image.

Use the -button to remove an image from the list. The image in the project-directory will not be removed.

Use the -button to reload the image when it has been changed externally with another program or when you are not satisfied with the colour mapping. ILP uses the windows colour mapping functions to map the colours from the image to the colours of the palette if necessary. The mapping can be different every time the image is reloaded. With this button you reload the image and the colour mapping will possibly give different results (if the colours of the loaded image are different from the colours of the palette e.g. a black and white project and a 16 colour image). See the < Save selected image to disk> -button for a solution regarding this mapping problem.

3.3 Templates



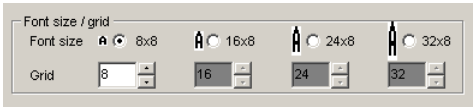
When you don't see the background image with the function keys on your screen, have a look at the project | template settings in your project. You can select a background image for every project you make. See also Tools | template to set your default template.

3.4 Finding font coordinates and positioning images

3.4.1 Finding font coordinates

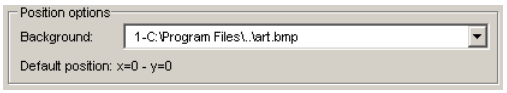
If you want to put text on the graphic display of your HPC, you must use the EPL-functions dispprints, dispprintf, gdispprints or gdispprintf. The dispprints and dispprintf functions require text coordinates. The gdispprints and gdispprintf functions require graphic coordinates. You can use ILP to find the exact graphic

coordinates that should be used with the gdispprint-functions. Select the A-button on the toolbar; you will see the following dialog:



Select the appropriate font and change the vertical grid parameter. You can now move the A-symbol in the selected font over the image; you can read the exact X-Y coordinates in the status bar below. The grid parameter influences the position of the character on the display. If you want to put text on every pixel of your display set the grid property to 1, you will then be able to move the A all over you display. Select the white-arrow button to deselect this function.

3.4.2 Positioning images



You can position images that are smaller than the size of the display on any given position of the display. The image must remain completely on the display though. Stretched images can not be positioned.
To do so, select the image that you want to position, select the cross-arrow-button and put the mouse above the image. Left-click the mouse and move the image to the correct location. The HPC programming language provides a function called “dispshowimage()” to draw this image at these default coordinates.
Use the Background selection box to select the image that is used as background during positioning.
Select the white-arrow button to deselect this function.

3.5 Compile and transmit images to HPC

When you have selected all the images that you want, you can send the project to a HPC. Use the compile-and-transmit button to create a binary file that can be loaded into the HPC. When the compilation has ended successfully, the file will be transmitted to the HPC. Make sure that the HPC is connected properly to the PC and that you have selected the correct Nif (network interface) on the project |options | communications page.

3.6 Menu overview

3.6.1 File

3.6.1.1 New

Choose File | New to create a new project.

Specify the project options for the (new) project.
See the Menu overview chapter to read more about the possible options and how to select a template….

3.6.1.2 Open

Choose File | Open to open an existing project. Select a project from the list and use the “open”-button to open the project.

3.6.1.3 Save

Choose File | save to save the images and settings of the open project.

3.6.1.4 Save as…

Choose File | save as if you want to save the open project to a file with a different name.

3.6.1.5 Save selected image to disk

ILP will use the windows colour mapping functions to map the colours of the image to the colours of the palette when the selected image has more colours than the selected colour palette. ILP has a problem when you select a 2 colour palette and you load images with 16 or more colours. The problem is that the result of the mapping is not always the same. An image can for example be much darker when it is loaded the first time than when it is loaded the next time. To prevent ILP to generate different images every time you load the project, you can use this option to save the image to disk when you are satisfied with the colour mapping. The image is saved with the selected palette and the selected dimensions. You can then add this image to you image list. If you don't get a satisfying result with ILP, just use another program to create the image with the correct colour palette.

3.6.1.6 Close

This will close the open project.

3.6.1.7 Reopen

In this menu you can find a list of the last ILP-projects that you have been working with. Select a project to reopen it.

3.6.1.8 Exit

This will exit ILP.

3.6.2 Edit

See the chapter Adding images for more information.

3.6.2.1 Add

This menu selection opens a picture dialog and allows you to add an image to your project.

3.6.2.2 Edit

This menu selection is used to replace an image in the image list with another image. It will also open a picture dialog. The chosen image will replace the currently selected image in the image list.

3.6.2.3 Del

This menu selection is used to delete an image from the image list.

3.6.2.4 Refresh

This menu selection is used to reload the image when it has changed externally with another program or when you are not satisfied with the colour mapping. ILP uses the windows colour mapping functions to map the colours from the image to the colours of the palette if necessary. The mapping can be different every time the image is reloaded. With this button you reload the image and the colour mapping will possibly give different results (if the colours of the loaded image are different from the colours of the palette e.g. a black and white project and a 16 colour image). See the <Save selected image to disk> -button for a solution regarding this mapping problem.

3.6.2.5 Normal

In normal mode you can use the edit function as described above. It is the default mode of ILP.

3.6.2.6 Font mode

You can use the font mode to find the exact graphic coordinates that should be used with the gdispprint-functions in your EPL-project. See the chapter Finding font coordinates for more information about this mode.

3.6.2.7 Position mode

You can use the position mode to position an image, see the chapter Positioning images for more information about this mode.

3.6.3 Project

3.6.3.1 Compile/transmit

This will start the compilation of the images (see compile for more information) and when this is done, it immediately starts transmitting the images to the HPC (see Transmit for more information).

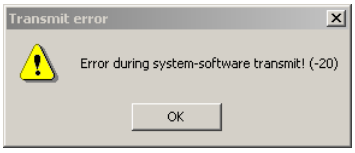
3.6.3.2 Compile

Before images can be transferred to the HPC, you must compile the images. This will generate a binary file containing a list of all the images and the selected colour palette. It also creates an include-file (*.h) with definitions of the image name and the number in the list. You can find this file in the project directory. You can include this include-file to reference the images by their name in your EPL-project.

3.6.3.3 Transmit

Once you've compiled the list of images, you can use the transmit item to send the compiled file to the connected HPC using the selected Nif (See Project | Options | Communication).

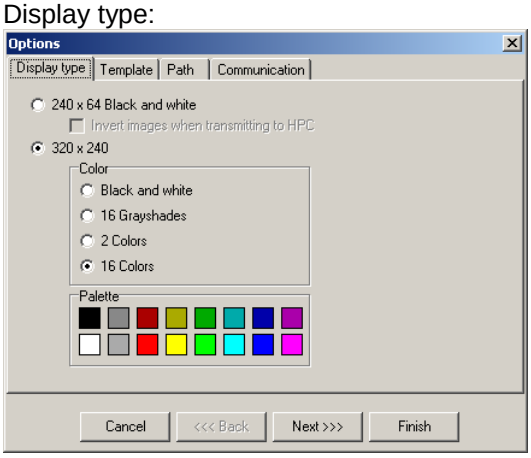
Make sure that the HPC is connected properly to the PC when you start the transmit action, otherwise ILP will show an appropriate error!



3.6.3.4 Options

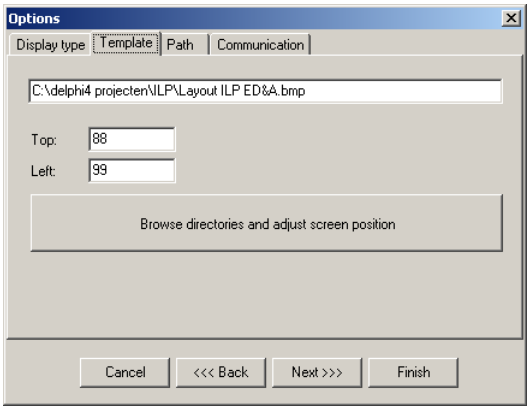
The options window contains 4 tab pages with the current settings of the project

Display type:

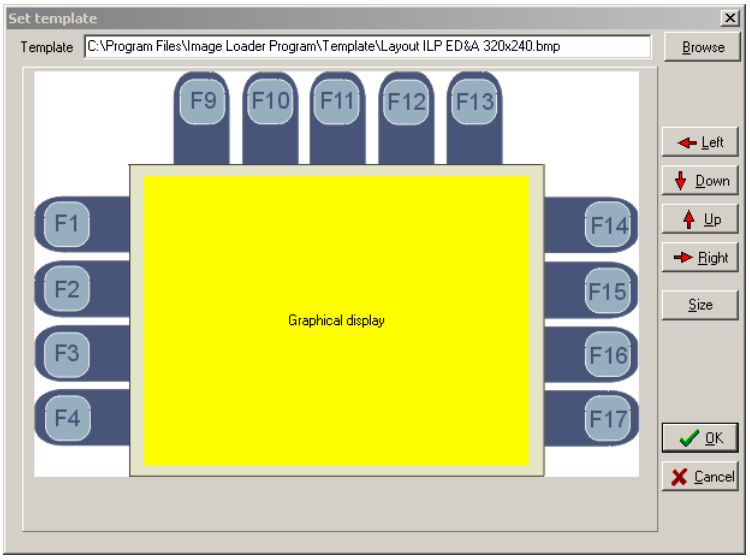


Select the display type, and if possible specify the number of colours and edit the colour palette.
At the moment you can select a 240 x 64 pixels black and white display or a 320 x 240 pixels black and white or 16-colour/grayscale display.
The option "Invert images when transmitting to HPC" is only selectable for a 240 x 64 B&W display. When checked, it will invert the 2 colours for the images in the list when compiling them to a binary file.
You can change a colour in the palette by clicking on the coloured frame and select a new colour with the colour dialog.

Template:

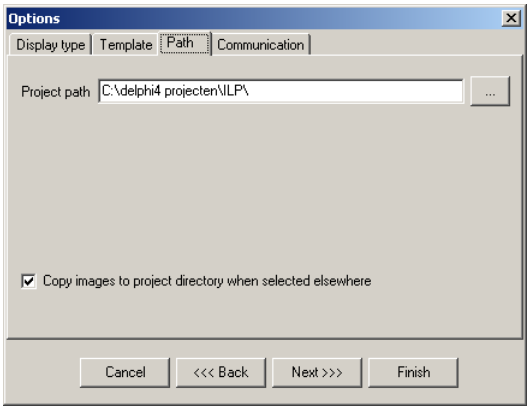


The template is the background picture that represents the keyboard sticker of your HPC and is used to align images according to the buttons on the sticker. Press the <Browse directories and adjust screen position> – button to select an image from the template directory and to adjust the position of the image according to the template.



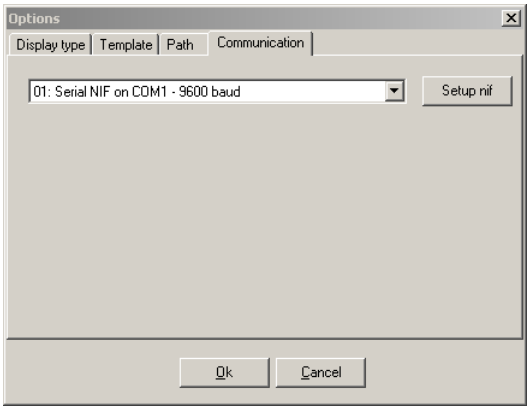
Use the <Browse> button to select a template image, use the arrow buttons to position the graphic display with regard to the selected template. Use the Size button to select a graphic display with another size. The template and the position of the display in respect of the template is saved in the project-file and is selected every time the project is opened. You will find the same Template selection item in Tools | Template, this is used to select the default template; the selections made there are only copied to a new project.

Path:



Select the image directory of the project, this directory is used to save images when the “Copy images to project directory when selected elsewhere” option is marked. This means that when you select an image somewhere on your
disk, a copy is saved to the project directory and this copy is used in the image list.
If the selection box is not checked the image is not copied to the project directory.

Communication

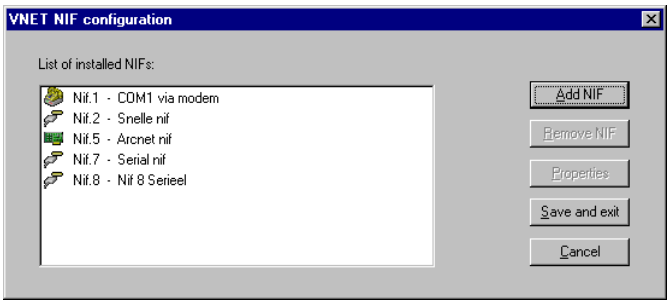


You should select a Nif (Network interface) to inform ILP in which way it is communicating with the HPC. Select the appropriate Nif. The dropdown list shows all the on your system installed Network Interfaces. If the drop-down list is empty, no Nifs are configured.

Use the Setup Nif-button to start the Nif control panel. Use Add-Nif to create a new network interface.

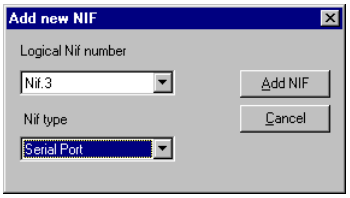
There are different Nif types:

1. Serial port Nif, connection: direct connection with an HPC connected to a Com-port
2. ArcNet adaptor: direct connection with an HPC through the ArcNet network.
3. Serial port using a modem: modem connection between to modems

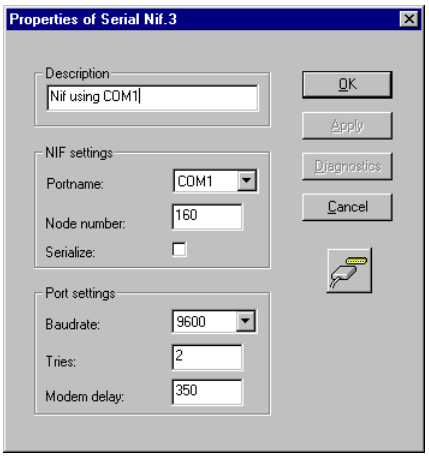


Add Nif:

To add a new nif select the Add NIF button:



Select a free Nif number (Maximum 8 nifs can be created) and specify the nif type.



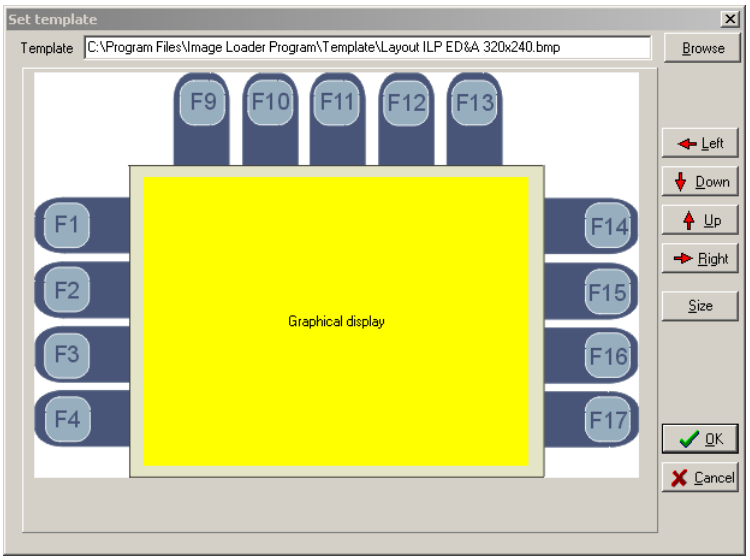
Enter a description for the new nif (e.g. Nif using COM1) and complete the Nif settings and Port settings. These settings can vary depending on the Nif type you want to create.

Important remark: At the moment it is not possible to use ILP in combination with a modem nif.

3.6.4 Tools

3.6.4.1 Template

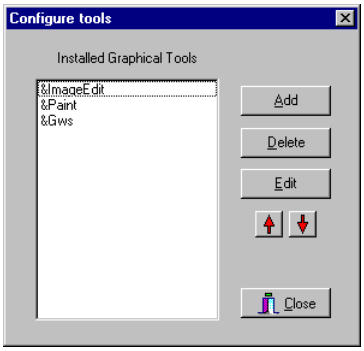
On the main image of the ILP program, you see a template with buttons, representing some keys of the keyboard of the HPC (if a project is open and the default template file was found). You can use this image to position the images that will be shown on the graphic display in regards of the buttons on the HPC. If the active template is not correct or its position is not exact, you can use this option to select a new template or to position the display with respect to the template. Use the browse button to explore your disk and to select a new template file, the default directory is the template directory, use the arrow-buttons to move the display over the selected template. Use the size button to select a graphic display with another size.



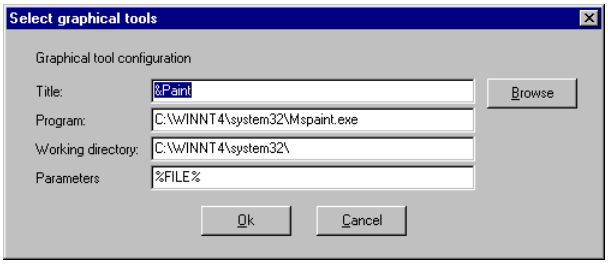
You will find the same Template selection item in the Project | Options | Template tab, the template selected under Tools | Template is used to select the default template. These selections are copied to a newly created project. You can then change the default template with Options | Template.

3.6.4.2 Configure tools

If you want to start other graphic programs to create or edit images, you can specify the location and the name of these programs. You can create a link to this program under the Tools menu.



Use the Add button to create a new link. Specify the necessary parameters and accept with OK.
You can use %FILE% in the parameter-field to send the selected image file to the graphic program.
This will of course only work when the graphical program under discussion supports the option to send the name of the file to open as a parameter.



3.6.5 Help

Select Help | about to see the version number of the software and the copyright information.